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Reshaping the Armored Combat Vehicle Industrial Base: Improved Private Sector and Depot Integration

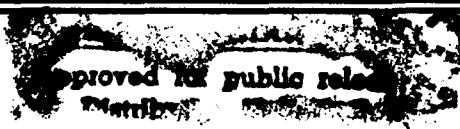
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ABSTRACT

TITLE: RESHAPING the ARMORED COMBAT VEHICLE INDUSTRIAL BASE:
IMPROVED PRIVATE SECTOR AND DEPOT INTEGRATION

AUTHOR: JOSEPH L. YAKOVAC

PURPOSE: To focus on the private and public sectors which support the development, production, and sustainment of the Army's armored combat vehicle fleet. It addresses:

- (1) the current structure of the private and public sectors,
- (2) the present management structure and what steps are necessary to make it responsive to current and future requirements, and
- (3) how current laws, regulations, and policies prevent better integration of the private and public sectors of the armored combat vehicle industrial base and make recommendations for change.

BRIEF SUMMARY: This paper focuses on what action can be taken to better integrate the Army's armored combat vehicle industrial base. The base consists of the private and the public sectors. Historically, the private sector provided research and development and the new production capability for the armored combat vehicle sector. The public sector was primarily involved with maintenance and overhaul. As budgets are reduced, the two components of the base must be integrated to effectively and efficiently support the armored combat vehicle sector.

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**Reshaping the Armored Combat
Vehicle Industrial Base:
Improved Private Sector and
Depot Integration**

**Lieutenant Colonel
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INTRODUCTION

Two significant events have shaped the current debate over the defense industrial base. The end of the Cold War and the Gulf War.

First, our apparent victory in the Cold War signified the end of the threat against which most of our major weapon systems were designed to defeat in an all out conventional or nuclear war. The demise of the threat meant we could reduce the size of our defense budget and shift defense resources into the domestic sector. This is the "Peace Dividend". Concurrently, the defense industrial base, which consists of private contractors and government labs, depots, and arsenals, would somehow downsize to effectively and efficiently meet existing and future military requirements.

Then came the Gulf War. Operation Desert Storm demonstrated the overwhelming technical superiority of our weapon systems. Not only would we require less equipment in the future, we could also afford to put off procuring many new weapon systems, then in development, for at least 10 to 20 years. We could divert additional resources from defense to the domestic sector. Because the defense industrial base did its job in the 70s and 80s, it would now lose additional future business.

The challenge facing the defense industrial and technology base is how to successfully transition from having met the numerous and complex requirements of the 70s and 80s to satisfying the much smaller more complex requirements of the 90s and beyond: while maintaining the capability to expand. The transition will not be easy.

This challenge facing the government and the private sector in reshaping the current defense industrial base was outlined by Les Aspin, the new Secretary of Defense, in a White Paper entitled "Tomorrow's Defense from Today's Industrial Base: Finding the Right Resource Strategy for a New Era". He stated:

"Our current system for equipping U.S. military forces--including research, engineering, development, production, and maintenance of defense systems-- was crafted during an era of economic and technological superiority, abundant fiscal support, and a market rich with domestic suppliers. None of those conditions apply any longer.

Therefore, we need a new resource [and management] strategy for guiding investment decisions, a strategy which maximizes our ability to support current requirements, ensures the survival of those technological and industrial resources critical to the achievement of future objectives and hedges against the risk of unforeseen national emergencies".¹

In my research, I found a general consensus existed throughout the government and private industry on a strategy which, if properly executed, will meet the requirements outlined by Secretary of Defense Aspin. The key components of such a strategy are shown in Figure 1 below.

DEFENSE INDUSTRIAL BASE STRATEGIES FOR THE 90'S²

- EMPHASIS ON SCIENCE AND TECHNOLOGY
- UPGRADES TO CURRENT WEAPON SYSTEMS RATHER THAN PRODUCTION
- LIMITED PRODUCTION AND TESTING OF REVOLUTIONARY SYSTEMS

Unfortunately, there is not a consensus on how to implement the strategy. It requires a major change in how the public and private components of the defense industrial base are

managed, resourced, and integrated. For example, historically the major prime contractors made money in the production of a weapon system, not in its development. How do we keep system integrators in business for the next 10 to 20 years with little if any new production? Do we, or should we, compete traditional depot and arsenal business to the private sector to give prime contractors the additional business base they need to keep the cost of future low production rates reasonable?

The main reason the above questions exist, as well as many others, is because the Defense Department and Congress have continued to do business as if we were still in the Cold War. I admit the budgets have gotten smaller and people on both sides of the Potomac are talking change. But in reality we continue to manage the defense industrial base as we did prior to the Wall coming down.

There are many reasons for both sides to talk new strategy but to do very little on the management and oversight side to execute it. Congress will always take into consideration its constituent's. Whether the constituents concerns are in the public or private sector of the defense industrial base, their concerns are being heard. Although DOD personnel have no constituency in the same sense as Congress, they do have "rice bowls" and turf to protect. It will take a concentrated effort by all concerned to turn a new strategy into reality.

The Office Of Technology Assessment Congressional Board of the 102d Congress just completed a two year study of the defense

industrial and technology base(DTIB). Volume 2 of the study. Building Future Security, was published in June 1992.

In the Chapter 1 of this document, under the heading of "General Findings", OTA makes the following statements:

(1) "The elements of the DTIB must be better integrated. There must also be an integrated management approach that aims to achieve the best use of resources for the DTIB as a whole".

(2) "Legislative and regulatory barriers impede civil-military integration".³

The remainder of this paper will discuss these two general findings in relation to the public and private sector of the Army's armored combat vehicle industrial base. I recognize the Marine Corps is a player in the armored combat vehicle arena. The length of this paper only allows for analysis of the Army's armored combat vehicle industrial base. However, recommendations presented at the end of the paper, concerning laws and DOD policy, will impact on the entire armored combat vehicle industrial base.

PURPOSE

The purpose of this paper is to focus on the private and public sectors which support the development, production, and sustainment of the Army's armored combat vehicle fleet. It will address:

- (1) the current structure of the private and public sectors.
 - (2) the present management structure and what steps are necessary to make them responsive to current and future requirements, and
 - (3) how current laws, regulations, and policies prevent better integration of the private and public sectors of the armored combat vehicle industrial base and make recommendations for change.
- Proper management and integration can shape the current armored combat vehicle industrial base to have the desirable characteristics shown in Figure 2.

FUTURE CHARACTERISTICS OF THE ARMORED COMBAT VEHICLE INDUSTRIAL BASE⁴

- ADVANCED RESEARCH AND DEVELOPMENT CAPABILITY
 - CONTINUOUS DESIGN AND PROTOTYPING CAPABILITY
 - LIMITED, EFFICIENT PEACETIME ENGINEERING AND PRODUCTION CAPABILITIES
 - READY ACCESS TO CIVILIAN TECHNOLOGY
 - RESPONSIVE PRODUCTION OF AMMUNITION, SPARES, AND COMSUMABLES FOR THEATER CONFLICT
 - HEALTHY, MOBILIZABLE CIVILIAN PRODUCTION CAPACITY
 - ROBUST MAINTENANCE AND OVERHAUL CAPABILITY
 - GOOD, INTEGRATED MANAGEMENT
-

THE ARMORED COMBAT VEHICLE INDUSTRIAL BASE

OVERVIEW

The armored combat vehicle family consists of tanks, fighting vehicles, tracked carriers for command and control, tracked carriers for troops, tracked carriers for support and combat service support, self propelled artillery, and maintenance recovery vehicles. Currently, there are over 42,000 armored combat vehicles in the inventory. The research and development, production, and sustainment of the armored combat vehicle family are accomplished by a large public and private sector industrial base.

The armored combat vehicle private sector and depot/arsenal (public sector) system grew in parallel and by chance.⁵ The Army was primarily a foot soldier army until World War II. Mechanized forces became the centerpiece of ground combat during and after the war. As weapons became more and more sophisticated and varied, the private sector's R&D and production capabilities grew. The public sector, except for in a few areas such as large caliber gun barrels and mounts, took on the majority of the overhaul and repair business. Overhaul included the major end item as well as the major assemblies and subassemblies. Because of the large amount of development, production, and repair and overhaul work in the 70s and 80s this unplanned and loosely managed system flourished. In fact, both the private and public sectors greatly increased capacity and capability during this period. The fiscal realities of the 90s and a strategy which emphasizes upgrades over new

production requires managed integration of the armored combat vehicle private and public sector.

ARMORED COMBAT VEHICLE PRIVATE SECTOR

The private sector is a bilateral oligopoly at the systems integration or prime contractor level. That is, there are a small number of players providing the product. General Dynamics Land Systems Division produces the Abrams main battle tank in a government owned contractor operated facility (GOCO). In this arrangement the facilities are totally owned by the government, General Dynamics Land Systems Division provides everything else necessary to develop, produce, and ,in general, sustain the tank through initial fielding to soldiers. FMC and its new partner, BMY, produce and/or are involved with the majority of all other armored combat vehicles.

These prime contractors are supported by a smaller number of manufacturers that provide major subassemblies. These major subs and the primes are further supported by thousands of vendors throughout the United States and a growing number in foreign countries. For example, General Dynamics is supported by over 1000 subcontractors and vendors in the manufacturing of the Abrams tank.⁶ FMC is supported by approximately 200 subcontractors and vendors in manufacturing the Bradley Fighting Vehicle.⁷ The customers of the prime contractors are the United States government and various foreign governments. Because of the declining budgets DOD development and procurement of major systems have significantly

decreased. It is anticipated this trend will continue well into the next century. For example, the production of new tanks for the United States is scheduled to end this fiscal year while the production of Bradley Fighting Vehicles end in FY94.

The prime contractors are "full service contractors". In addition to production and research and development, they provide integrated logistics support and systems engineering capabilities. Also, in instances when depots are unable to or do not have the capabilities necessary to perform overhaul, the prime contractors can and have augmented their new production runs with overhaul or remanufacturing work.⁶ Many of the major subcontractors to the system integrators have similar capabilities. In fact, many critics of the current industrial base favor the complete privatization of the armored combat vehicle industrial base. They argue depots cannot provide "full service" and therefore their services are not as critical to the future health of the armored combat vehicle industrial base as the private sector. My views on this particular point will be presented in the recommendations section of the paper.

ARMORED COMBAT VEHICLE PUBLIC SECTOR

The Army's armored combat vehicle sector is supported by two arsenals and three depots. Watervleit and Rock Island arsenals design and manufacture large caliber gun tubes and mounts. Red River Army Depot supports light and medium armored combat vehicles. Anniston Army Depot supports the tank. Letterkenny Army Depot

supports the missile systems that are a major subsystem on a variety of armored combat vehicles. It also supports self propelled artillery vehicles. The mission of the depots is to support readiness and sustainment requirements in peacetime and to be the nation's initial surge capacity in time of war. They contract out to industry for services in those areas where they do not have the expertise or equipment and where expense limits their ability to obtain them. The depots are not full service contractors. Their research and development and engineering capabilities are limited. Unlike the private sector, they are not capable of meeting all of the requirements of the armored combat vehicle industrial base. They are in the business of repair and overhaul.

The United States government spent \$13 billion dollars in 1991 in maintaining the equipment of the Armed Services.⁹ Of that total, \$628 million was spent in the armored combat vehicle sector. The public sector had the capability to perform 60 to 70 per cent of the required work.¹⁰ Thirty to forty percent of the work was off-loaded to the private sector.¹¹ The maintenance budget will at least remain constant if not increase as less new equipment is brought into the inventory. Unlike the private sector that relies heavily on R&D followed by new production runs, the public sector, if nothing changes, has a relatively stable future in the overhaul and sustainment business.

The Army depots and arsenals which support the armored combat vehicle sector are a part of the Army's Depot Systems

Command (DESCOM). DESCOM is responsible for 13 installations and employs over 42,000 people.¹² Significant, when making decisions about the future of the defense industrial base, is the fact that the average depot employs 5400 personnel and has an average payroll of over \$150 million dollars.¹³ Furthermore, an average of an additional 8700 jobs are created in the local economies because of the presence of the installation.¹⁴ These spillover jobs plus the depot payrolls account for approximately 20% of the economy in those counties where the installations are located.¹⁵ Obviously, depots are strongly supported by Congressmen and Senators. This fact will become very important later in the paper.

In the 1980s, when resources were plentiful, the capabilities of the depots which support the armored combat vehicle sector were improved. In fact, in many cases the capabilities of private industry were duplicated at the depots under the rationale of surge capability. Unfortunately, the excellent planning to be prepared to sustain our forces in the event of a war against the former Soviet Union has produced unnecessary unaffordable capacity.¹⁶

In response to its critics and recognizing the need for the Army depot system to adapt to the post Cold War world, DESCOM solicited the advice of experts throughout the public and private sector on how they could downsize to become more cost effective and efficient.¹⁷

The results of the study are contained in a plan called READY 2000 (Revitalization of the Army Depots for the Year 2000). The goals of this ambitious project are shown in Figure 3.

GOALS OF READY 2000^{1a}

- DEPOTS WILL OPERATE IN A BUSINESS LIKE, COST EFFECTIVE MANNER
 - SIZED TO THE OPERATING FORCES' TECHNOLOGIES AND WORKLOAD REQUIREMENTS
 - TECHNICAL EXCELLENCE COMPETITIVE WITH THE BEST PRIVATE INDUSTRY HAS TO OFFER
 - SERVICES APPROACH TO PROVIDE A MUTUALLY SUPPORTIVE, COST EFFECTIVE, AND SUPERIOR INFRASTRUCTURE
-

Its management is under the Depot Systems Command Executive Director for Modernization. Contrary to the many critics of government run enterprises, the Depot Systems Command is responding to the market place and doing what is necessary to be in a position to effectively and efficiently support the future armored combat vehicle sector.

WHERE TO WE GO FROM HERE?

My research indicates that both parts of the armored combat vehicle sector are and will continue to adapt to the new environment. The only question is: can we afford to let each determine what path is the best or can we better integrate the two sectors to ensure they provide the necessary capabilities to support the armored combat vehicle sector in peace and in any future conflict.

The following quote was made in a recent Washington Post article.

"At the Pentagon. Defense Secretary Dick Cheney and his lieutenants have resisted calls to actively manage the defense industry's downsizing in the face of reduced spending.

"Their approach has been a form of industrial Darwinism", said Gordon Adams, director of the Defense Budget Project, a Washington research group. There is just beginning to be a glimmering of understanding that some government policy is needed to ensure the health of the defense industrial base".¹⁹

I agree. The Department of Defense with assistance of Congress must manage the reshaping of the armored combat vehicle sector. They can best accomplish this through an integrated management approach and by changing and/or modifying acquisition laws, regulations, and policies.

The next section will analyze inhibitors to private and public sectors integration and make recommendations to reduce or eliminate them.

RECOMMENDATIONS

REORGANIZING ARMY MANAGEMENT

Times have changed but management of the armored combat vehicle industrial base has not. The management system which supported the defense build up of the eighties is not configured to intelligently reshape the armored combat vehicle industrial base needed for the nineties and beyond. The stovepipe management structure is a barrier to integrating the armored combat vehicle industrial base. This fact was highlighted in the Office Of Technology study mentioned earlier in this paper.

"In the past, the DTIB [Defense Technology Industrial Base] managers have focused on achieving individual goals within their own organizations, with little attention given to the effects of these policies on the entire base.

If the DTIB is to provide high quality weapons at an affordable price in peacetime and to respond with increased production [and logistical] support in crisis or war, it must be restructured to exploit the synergies arising from a closer integration of R&D, production, and maintenance. Such an integrated approach may require reorganizing DOD oversight at the levels of the Office of the Secretary of Defense and the individual services to ensure an integrated approach. Managers at all levels may also need incentives to take a broader view of the base".²⁰

This section of the paper will discuss the current management structure and give an example to illustrate that it is inadequate for improved integration of the armored combat vehicle industrial base. A series of recommendations on restructuring the system will then be presented.

The research, development, and acquisition stovepipe deals primarily with the private sector. It is responsible for managing defense programs from the concept phase to production and initial fielding. The current structure is based on recommendations made by the Packard Commission in 1986. The management structure designed to implement the Packard Commission recommendations is shown in Figure 4.

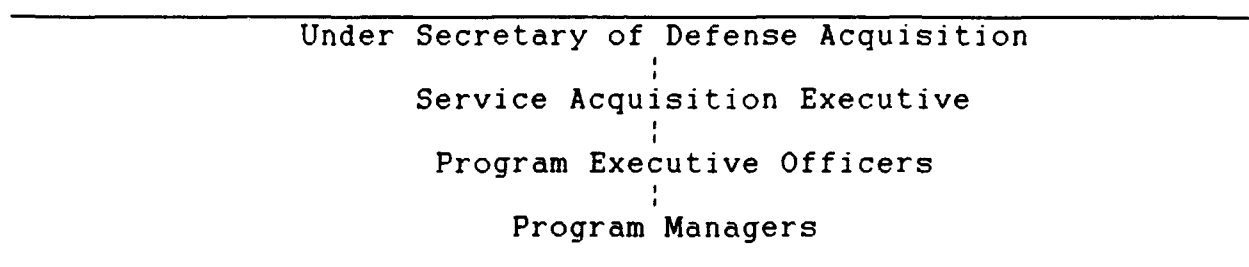


Figure 4

This structure was designed to lower the overall costs of weapon systems which had long production runs.²¹ It was not designed to maximize the effectiveness of the private and public sector. In 1986, the year of the Packard Commission study, there was plenty of work for both sectors. In short, the management structure recommended by the commission was not intended to cope effectively with current industrial base issues.²²

Unfortunately, the management of the depot system does not officially cross into the world of acquisition management. Logistics, maintenance, and repair are primarily controlled within the services. The Army's management structure for depots is shown in Figure 5.

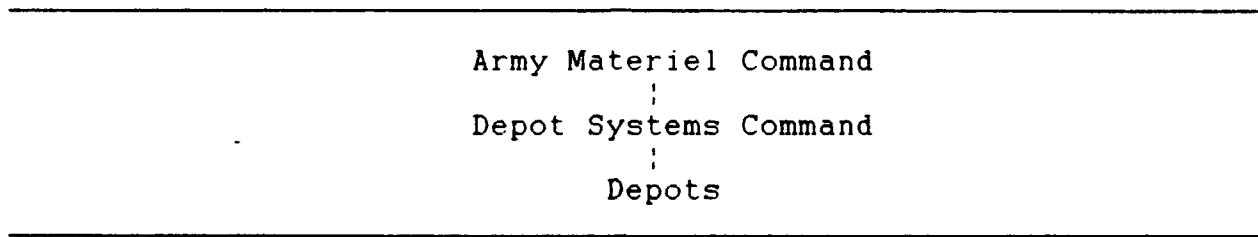


Figure 5

As long as the budget supported large production programs and new weapon systems were planned to be fielded every 5 to 10 years to match the Soviet threat, this dual management system flourished. However, as new production slows and major systems stay in the inventory longer, maintenance and upgrades become important. The dual system can be very inefficient in properly allocating business to best support the industrial base. Two examples follow to further emphasize this point. The first example illustrates the current management system's ability to make good decisions when it is clear both sides will benefit. The second example will show the system's inability to handle the more difficult issue of dividing a smaller pie.

Two current programs show the present system is capable of handling the easy decisions. The Paladin program, which significantly improves the Army's 155 self propelled howitzer, and the M1A2 Abrams tank program, which significantly improves the

Army's main battle tank, are planned as work share programs. That is, the private sector will do what it does best, insert technology. The depots will do what they do best, overhaul and repair.

Both programs are very similar. I will only discuss the Paladin program. The program will be a joint effort between Letterkenny Army Depot and a yet to be determined private sector contractor. Letterkenny receives the vehicle and splits the hull from the turret. The hull and selected components are then rebuilt or overhauled. All of these components will then be shipped to the private contractor. Here a newly manufactured turret is integrated with the refurbished hull and the other selected components. This strategy benefits all tiers of the armored combat vehicle industrial sector. The decision to split the work was easy and the current management system was not put to task.

The next example illustrates why the majority of sources I read and people I interviewed favor some adjustment to the current dual management system.

The Bradley Fighting Vehicle upgrade program was designed to convert 1358 A1(-) and A1 vehicles to the A2 configuration. The details of the conversion are not important for this paper. What is important is that the work could be performed by the depot, by a private contractor, or by a combination of both.

The upgrade program was initially conceived in the late 1980s when Defense budgets were large and an entire new family of armored combat vehicles was funded for development and production. The

total program cost was approximately 60 billion dollars. Tremendous opportunities existed for the private sector well into the nineties and beyond. Therefore, upgrade programs were viewed as "good" depot work. Then the wall came down and everything changed. Budgets decreased tremendously. There would not be a new armored family of vehicles. The good old days were over.

As stated earlier, the Depot Command decided to streamline and consolidate. One of the first decisions it made was to close Mainz Army Depot in what was then West Germany. Mainz was scheduled to convert approximately 729 Bradley AIs well into the mid nineties. The decision to close Mainz by the end of FY 1992 reduced the number to 229. The Depot Command made a unilateral decision to give the remaining work to Red River Army Depot. As a result, Red River would convert 1129 Bradley AIs through FY 98.

Simultaneously, FMC Corporation, the producer of the Bradley Fighting Vehicle, saw its future production base growing smaller everyday. In fact, by FY 95 new production was scheduled to be only 66 Bradley Fighting Vehicle equivalents. FMC is facilitized at a minimum economic production rate of 330 Bradley Fighting Vehicle equivalents per year. The importance of this to the Army was that the projected cost of one Multiple Launch Rocket System Chassis, produced by FMC, would increase from approximately \$700,000 to \$1.5 million.²³ Knowing this would be unacceptable to the Army, FMC submitted an unsolicited proposal to the Army in 1991 to perform some of the conversion work intended for Red River Army Depot. The Army Materiel Command decided to put a team together to consider

the FMC proposal.

The team was composed of nine members: two from Army Materiel Command headquarters, four from the Depot Command, two from the Tank Automotive Command (a major subordinate command of AMC), and one representative from the acquisition side of the house.²⁴ He came from the Office of the Program Manager Bradley Fighting Vehicle Systems. He was a depot specialist, not a decisionmaker. Although an overall costs savings to the Army came from sharing some of the work, the team recommended keeping all of the work at Red River. The leadership of the Army Materiel Command accepted the recommendation but promised to relook the decision in FY94.²⁵

It is my belief that industrial base decisions, such as the one above, will become as important in the 90s as new production decisions were to the 80s. How will we split the available work to maximize the cost effectiveness and efficiencies of the industrial base? We retain the management structure required for the previous decade. That is, R&D and new production decisions are made by the acquisition community while overhaul and maintenance decisions are made by the logistics community.

From a DOD wide perspective, I recommend a follow on to the Packard Commission be established. Its purpose would be to look at the entire defense management system to determine if it is capable of making the tough decisions necessary to properly equip and sustain the armed forces of the 90s and beyond.

On a much smaller scale and more readily implementable, I recommend the Army establish a formal review board for the purpose

of making any major decision which impacts on the industrial base; especially those which require decisions involving the depots and the private sector. The board would be jointly co-chaired by the Army Acquisition Executive or his designated representative and the Army Materiel Command Commander or his designated representative. The responsibility for requesting the board would rest with any Program Executive Officer or the commander of any Army Materiel Command major subordinate command responsible for materiel readiness.

My recommendations expand beyond the armored combat vehicle sector because it does not exist in isolation. The management structure of all sectors are very similar and they are all facing the same problems.

To close this section, I will take a quote from the book Affording Defense by Jacques S. Gansler:

".....DOD must establish an organization with responsibility for [a defense industrial strategy] and then give that organization authority for direct inputs into the major resource and weapon system decisions. The selected group will have to have adequate insight into the health, innovativeness, and responsiveness of the defense industry in order to determine the actions needed ...".²⁶

This section dealt with the Army's management structure. The next section will expand to areas controlled by Congress and the Office of the Secretary of Defense.

CHANGES TO LAWS

Obviously there are no laws which pertain only to the armored combat vehicle arena. In my research, I discovered laws which

assist as well as restrict the efficient integration of depots and the private sector. This portion of the paper will focus on those that restrict and recommend changes to those laws.

The former Under Secretary of Defense for Acquisition, Don Yockey, wrote a paper in the spring of 1992 outlining his vision of what the Defense Department needed to accomplish to address the acquisition environment of the 90s and beyond. He established four initiatives. One was entitled "Initiative to Stimulate Efficiency and Competition".(26) The following statement was made by Mr. Yockey as an example:

" The department is streamlining weapon systems maintenance operations by allowing military depots to compete for maintenance work. Since the inception of the competitive program, our primary goal has been to receive the best services at the best price.This competition has encouraged [both the private and public sector] to become more efficient through consolidation of operations and the streamlining of support costs".²⁷

In contrast to Mr. Yockey's remarks, the Office of Technology Assessment made the following observation:

"Congressional actions have made the rationalization of the depot maintenance base more difficult. Legislation limiting competition, directing work to particular facilities, and mandatory job protection have all constrained the DOD's ability to operate the maintenance base efficiently. Properly sizing the future maintenance base will require a broader view of overall [Defense Technology Industrial Base] requirements and decisions designed to support the integrated base rather than its individual parts".²⁸

I found similar thoughts about Congressional laws to exist throughout the private sector.

Both Mr. Yockey's and the OTA assessment are correct. From one perspective, Congress has opened the door to increased competition between the depots and the private sector, but unfortunately they have only partially opened it. Let me explain.

In FY 92 legislation, Congress established two public laws pertaining to the depots. The first, Public Law 102-172, allows DOD to compete maintenance and repair on the majority of equipment, to include armored combat vehicles, between the depots and private industry. The second, Public Law 102-190, limits the extent of such competition. It establishes a 60% quota to be retained at the depot. The quota is calculated based on workload and on a commodity bases. The law allows the depot to pick and choose the work it desires to compete. As a result, competition between the depots and the private sector does not occur on a "level playing field".²⁹ Its tilted in favor of the public sector.

The overall effect on the armored combat vehicle industrial base and other sectors as well is the protection of depot operations at the expense of the rest of the industrial base. Consequently, rather than the government getting the most for its dwindling piece of the federal budget, its paying for over-capacity.³⁰

The ideal solution, to better integrate the armored combat vehicle industrial base, is for Congress to repeal the 60/40 law. However, I am a realist. I recognize the importance of depots to the economies of their surrounding areas and, as a result, the importance congressional members place in the depots remaining healthy. Therefore, protectionist legislation to some extent will always exist. I recommend compromise in this area. Use the sector studies done by the Army on the armored combat vehicle industrial base to determine what depot skills and capacity are absolutely

necessary to maintain a surge capability. (The assumption is that someone will eventually determine what surge means in the post Cold War world.) Then convince Congress, that in a time of decreasing resources, we cannot afford duplication in the base. Only set this portion of work outside of the competitive window. In conjunction with this effort, identify any unique private sector skill or capability necessary to support future development and production requirements from prime contractor down through the vendor base and protect it. Everything else should be open to competition and may the best value win. By this method we actively shape the defense industrial base of the future to better meet requirements.

MODIFYING REGULATIONS

In March of 1991, The Center for Strategic and International Studies published a study entitled "Integrating Commercial and Military Technologies for National Strength, An Agenda for Change". It states many barriers exist to making major changes to regulations governing defense acquisition and, as a result, recommends making incremental changes to regulations only in areas where significant impact is possible.³¹ This observation is also true in the armored combat vehicle sector. Therefore, the recommendations in this section will only consider those regulatory changes which will have a major impact on improving the integration of the private and public sector.

As stated in the previous section, Changes to Laws, depots and the private sector are allowed to compete for work. This approach

to improving private and public integration will only be successful if the competition is viewed as "true" by both sides. Unfortunately, this is not the case. The private sector views the competition as taking place on an "unlevel playing field". Defense contractors state cost accounting standards favor the depots in any competitive environment.³² Their perception is supported by the study of the U.S. Congress Office of Technology Assessment. The study states:

"Structuring competition and developing a "level playing field" agreed to by both the private and public sectors will remain contentious. A key issue has been how to compare costs among different Service depots and between the private and public sectors."³³

Because perception is reality, I recommend a formal review committee, made up of members from the private and public sector, jointly analyze cost accounting methods used by both sectors in bid preparation. Use the "Cost Comparability Handbook" as a starting point. Also, the government must commit to making reasonable regulatory changes recommended by the joint committee to "level the playing field". Such an initiative will demonstrate to private industry that the government is fully committed to better integration through "true" competition.

Once regulations are changed to support private and public competition, directives must be reviewed to ensure authority and responsibility for monitoring the health of the industrial base is elevated in importance beyond the current levels.

MODIFYING DIRECTIVES/SETTING POLICY

Directives establish authority and set policy. The capstone DOD Directive for defense acquisition is Number 5000.1. It establishes the management approach used by DOD in acquiring materiel solutions to user requirements.³⁴ The current edition is dated February 23, 1991. Although it is relatively new, it needs to be rewritten because it does not reflect the new acquisition environment. It still emphasizes "cost, schedule and performance trade-offs, affordability constraints, and risk management" as the major considerations at milestone reviews.³⁵ In fact, it mentions "industrial base" only twice but does not tie it to any decision milestone.

If industrial base issues are important, then the acquisition community should integrate industrial base decisions into the milestone process. Once incorporated into the milestone process, it can be emphasized in the charters of Program and Product Managers. For example, the current charter of the Program Manager Bradley Fighting Vehicle Systems mirrors the current regulation by placing "primary management emphasis on cost estimating, planning, programming, budgeting.....".³⁶ Only if we start to make someone responsible for industrial base decisions, will it begin to get the attention it currently deserves.

Finally, Directive 5000.1 "describes the significant acquisition related responsibilities of key officials and forums".³⁷ The key player on the OSD staff regarding the industrial base is not even mentioned in the directive. The

Assistant Secretary of Defense for Production and Logistics responsibilities should be included in the directive and given a primary seat on the Defense Acquisition Board.

This section covered recommendations which would make a difference not only to the armored combat vehicle sector but to the entire industrial base.

PRIVATIZE THE PUBLIC SECTOR?

Why not privatize the public sector? This question came up in every interview I conducted and was addressed in many studies and articles on the defense industrial base. There is no consensus. Those in government involved with the acquisition of new equipment would consider privatization. Those involved with maintenance and sustainment favor the system as it currently exists. Private industry would like to see such an initiative.

The thoughts of the acquisition community are best described in the following quote taken from a speech given by Mr. Stephen Conner, Assistant Secretary of the Army for Research, Development, and Acquisition during the Bush administration:

"Shift spare parts and depot maintenance back to the prime contractors to keep the industrial base alive.

The original manufacturers of most systems can provide full service such as modification, upgrades, and spares. It makes sense to take a "best value" attitude toward the awarding of contracts.

Protect the depots? or the full service vendors? I would argue it ought to be the latter approach".³⁸

The opposing view is taken from the Corporate Business Plan Fiscal Years 1992-1997 put together by the Defense Depot Maintenance Council. It states:

"To support readiness and sustainability requirements while being augmented by commercial industry, the organic depot maintenance industrial base is essential for the initial responsiveness and sustainability for military contingencies until production can be supplemented by commercial industry".³⁹

All sides make compelling arguments. None of the sources I interviewed or read could convince me privatization would result in a better base. As long as the public sector remains committed to change, a rationalized public and private sector in support of armored combat vehicles, is the best way to go. It has proven itself to be effective in the past. Better integrated management along with changes in laws, regulations, and policy are needed to make the sector more effective and efficient in meeting current and future needs of the users of armored combat vehicles, not depot privatization.

CONCLUSION

In their study, Redesigning Defense: Planning the Transition of the Future U.S. Defense Industrial Base, the Office of Technology Assessment makes the following statement:

"The nation faces some broad strategic choices about the nature of the future defense base, including:

- the degree of national autonomy versus international interdependence,
- reliance on an arsenal[depot] system versus civil integration, and
- the allocation of resources to current production versus future potential".⁴⁰

This paper has focused on the second strategic choice as it pertains to the armored combat vehicle sector. The recommendations found in the paper are summarized on below:

(1) At least for the near term, accept that politics will not allow the depots to be privatized. We must work for private sector and public sector integration.

(2) Establish a commission to determine if the current defense management system is properly designed to address the current challenges facing the defense industrial base.

(3) Establish a formal review board made up of leaders from the Army's PEO structure and the Army Materiel Command to address industrial base issues.

(4) Repeal Public Law 102-172 and revoke all regulations implementing it. If this cannot be accomplished, attempt to minimize its effect on competition between depots and the private sector.

(5) Establish a joint review board consisting of members from private industry and the public sector to review current cost accounting standards and make changes to support "true" competition.

(6) Make changes to DOD Directive 5000.1 to emphasize the importance of industrial base decisions in the acquisition process.

The industrial base began to shrink in the late eighties. The decline will be much greater in the future as budgets get smaller. My research indicates many discussions have taken place and studies performed on the issues surrounding the restructuring of the industrial base. However, very little coordinated action has taken place to start the restructuring process. In the meantime, both private and public sectors are moving along separate paths. The time for study is over. Let's do what is necessary to ensure the base can:

(1) develop, produce, and support military systems in peacetime; and

(2) respond to increased military requirements in crisis or war.⁴¹

ENDNOTES

1. Les Aspin, *Tomorrow's Defense for Today's Industrial Base: Finding the Right Resource Strategy for a New Era*, p.2.
2. U.S. Congress Office of Technology Assessment, *Redesigning Defense: Planning the Transition to the Future U.S. Defense Industrial Base*, p.8.
3. U.S. Congress Office of Technology Assessment, *Building Future Security*, pp.6-7.
4. U.S. Congress Office of Technology Assessment, *Redesigning Defense: Planning the Transition to the Future U.S. Defense Industrial Base*, p.8.
5. Jacques S. Gansler, *Affording Defense*, p.241
6. U.S. Congress Office of Technology Assessment, *Building Future Security*, p.85.
7. Ibid., p.85.
8. William A. Anders, *Revisiting the Rationalization of America's Defense Industrial Base: Ensuring Public and Private Sector Efficiency and Adequacy for Future National Security*, p.14.
9. U.S. Congress Office of Technology Assessment, *Building Future Security*, p.16.
10. Ibid., p.16.
11. Ibid., p.16.
12. Battelle Memorial Institute, *Strategic Assessment for Depot System Command REvitalization of Army Depots for the Year 2000 Program*, p.14.
13. Ibid., p.14.
14. Ibid., p.14.
15. Ibid., p.14.
16. U.S. Congress Office of Technology Assessment, *Building Future Security*, p.121.
17. Battelle Memorial Institute, *Strategic Assessment for Depot System Command REvitalization of Army Depots for the Year 2000 Program*, idea taken from the executive summary.

18. Ibid., p.i.
19. Steven Pearlstein, *Hesitant Help for McDonnell*, p.A1 and p.A15.
20. U.S. Congress of Technology Assessment, *Building Future Security*, p.6.
21. Ibid., p.139.
22. Ibid., p.140.
23. FMC Corporation, *The Bradley Production Base & Conversion Program*, Briefing to the U.S. Army Tank Automotive Command.
24. Jim Woodard, *The Bradley Maintenance Base and Conversion Program*, Briefing to LTG Brailsford.
25. Memorandum for Major General Harry G. Karegeannes, *FMC Corporation Proposed Production of Bradley Fighting Vehicle Systems (BFVS) A1 to A2 Conversion*.
26. Jacques S. Gansler, *Affording Defense*, p.285.
27. Don Yockey, *Initiatives to Stimulate Efficiency and Competition*, no page number.
28. U.S. Congress Office of Technology Assessment, *Building Future Security*, p.7.
29. William A. Anders, *Revisiting the Rationalization of America's Defense Industrial Base: Ensuring Public and Private Sector Efficiency and Adequacy for Future National Security*, p.11.
30. Ibid., p.4.
31. The Center for Strategic and International Studies, *Integrating Commercial and Military Technologies for National Strength. An Agenda for Change*, p.87.
32. William A. Anders, *Revisiting the Rationalization of America's Defense Industrial Base: Ensuring Public and Private Sector Efficiency and Adequacy for Future National Security*, pp.11-12.
33. U.S. Congress Office of Technology Assessment, *Building Future Security*, p.134.
34. Department of Defense Directive Number 5000.1, p.1.
35. Ibid., p.2.

36. Charter of the Program Manager. Bradley Fighting Vehicle Systems.

37. Department of Defense Directive Number 5000.1, p.3-1.

38. Aerospace Daily, *Acquisition Chiefs See End of "breakouts" to Help Industrial Base*, p.41.

39. Defense Depot Maintenance Council, *Corporate Business Plan for Fiscal Years 1992-1997*, p.5.

40. U.S. Congress Office of Technology Assessment, *Redesigning Defense: Planning the Transition to the Future U.S. Industrial Base*, p.10.

41. Ibid., p.3.

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